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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Rick V. Murakami

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EXAMINER

NGUYEN, NAM V

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/758,836	Applicant(s) MURAKAMI ET AL.	
	Examiner Nam V. Nguyen	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/30/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 11, 17-20, 23, 24 and 27-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 and 36 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11, 17-20, 23, 24, 27-34 and 37-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/29/10</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This communication is in response to applicant's Amendment which is filed November 30, 2009 by a request for continued examination.

An amendment to the claims 1-2, 4-7, 17, 19, 20, 23-24 and 27-34 has been entered and made of record.

Claims 8-9, 12-16, 21-22, 25-26 has been canceled. A new set of claims 37-68 are introduced.

Claims 1-7, 10-11, 17-20, 23-24 and 27-68 are now pending in the application.

Response to Arguments

Applicant's arguments with respect to Claims 1-7, 10-11, 17-20, 23-24 and 27-34 filed November 30, 2009, have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make

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and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7, 10-11, 17-20, 23-24 and 27-68 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

According to claims 1, 11, 17, 19-20, 23-24, 37 and 54, nowhere in the specification as originally disclosed the limitation that a biometric sensor configured to measure a specific, internal, sub-epidermal physiological process of a user. This limitation of claims 1, 11, 17, 19-20, 23-24, 37 and 54 contains new matter. Examiner only found in the specification that discloses physiological characteristics of a user.

Referring to claims 2-7, 10, 18, 27-36, 38-53 and 55-68 are rejected as being dependent upon rejected claims 1, 11, 17, 19-20, 23-24, 37 and 54 above.

According to claims 27 and 65, nowhere in the specification as originally disclosed the limitation that said physiological process corresponds to one selected from the group of consisting of cardiac rhythm, a diacritic notch reading, a heartbeat waveform and a hemodynamic waveform. This limitation of claim 27 contains new matter.

Regarding all newly amended claims support could not be found for the new limitations. The applicant has failed to comply with MPEP 2163 II which states that support should be specifically pointed out for all newly claimed limitations. Applicant did not point to any support for any newly claimed limitations

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7, 10-11, 20, 23-24 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe et al. (US# 6,628,809) in view of Clayden (US# 5,787,185) and in view of Pavlov et al. (US# 4,614,861).

Referring to Claims 1-2, 20 and 24, Rowe et al. disclose a method and a device activated by biometric authentication (column 2 line 61 to column 3 line 28; see Figures 1-7), comprising:

An energy source (16) and a spectrum analyzer (30) (i.e. a biometric sensor) configured to measure a multiple tissue spectra of inner dermis or subcutaneous tissue (i.e. a specific, internal, sub-epidermal structure) within a user from which a tissue spectral data (i.e. a biometric marker) of said user may be determined (column 11 lines 44 to 63; see Figure 5), said biometric sensor comprising:

An energy source (16) (i.e. an energy emitter) configured to emit an electromagnetic energy signal toward said user, wherein said electromagnetic energy signal is configured to

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penetrate said user to measure a subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) within said user (column 7 lines 28 to 57; see Figures 1 and 2), and

an spectrum analyzer (30) (i.e. an energy sensor) to detect an electromagnetic energy signal returned from said user responsive to said emitted electromagnetic energy signal to thereby obtain a measurement of said subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) (column 8 lines 20 to 27; see Figures 1 and 2); and

a database (600) (i.e. a memory module) in communication with said the energy source (16) and the spectrum analyzer (30) (i.e. the biometric sensor) comprising a biometric profile of an authorized user of said device (column 12 lines 32 to 42; see Figure 6),

wherein said device is configured to measure said tissue spectral data of inner dermis or subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) within said user using said biometric sensor, to determine the biometric marker of said user therefrom, to compare said biometric marker to said biometric profile of said authorized user of said device, and to generate an authentication signal if said biometric marker matches said biometric profile of said authorized user of said device (column 11 line 44 to column 12 line 42; see Figures 5 to 7).

However, Rowe et al. did not explicitly disclose a biometric sensor configured to measure a specific, internal, sub-epidermal physiological process of a user.

In the same field of endeavor of identity verification, Clayden teaches a biometric sensor configured to measure an image of the subcutaneous vein pattern (i.e. a specific, internal, sub-epidermal physiological process) of a user (column 2 lines 34 to 67; see Figures 1 to 10) in order to verify a biometric identity of a living individual in transaction involving identity cards.

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a biometric sensor for detecting the locations of subcutaneous blood vessels by capturing an image of the subcutaneous vein pattern with infra-red-rich emission spectrum taught by Clayden in a biometric sensor of for non-invasively verifying human identities using near-infrared spectroscopy of Rowe et al. because using a biometric sensor having for detecting the locations of subcutaneous blood vessels would provide an alternative way of measuring and collecting image data for verifying biometric identification of individuals.

Referring to Claim 3, Rowe et al. in view of Clayden disclose the device activated by biometric authentication of claim 1, Rowe et al. disclose wherein said biometric sensor further comprises an activation sensor (column 11 lines 44 to 55; see Figure 5).

Referring to Claim 4, Rowe et al. in view of Clayden disclose the device activated by biometric authentication of claim 1, Rowe et al. disclose wherein said biometric sensor further comprises a discriminate analysis module (520) (i.e. a translator) whereby an energy signal received from said energy sensor (16) is translated into an electronic signal comprising said measurement of said specific, internal, sub-epidermal structure used to determine said biometric marker of said user (column 11 line 64 to column 12 line 13; see Figures 4 and 5).

Referring to Claims 5-6, Rowe et al. in view of Clayden disclose the device activated by biometric authentication of claim 1, Rowe et al. disclose wherein said energy emitter (16) emits electromagnetic energy in the form of a light wave (column 5 lines 48 to 65; column 6 lines 11 to

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62; see Figures 1-2).

Referring to Claim 7, Rowe et al. in view of Clayden disclose the device activated by biometric authentication of claim 1, Rowe et al. disclose wherein said energy sensor (30) senses light waves (column 6 lines 63 to column 7 line 18; column 8 lines 12 to 27; see Figures 1-2).

Referring to Claim 10, Rowe et al. in view of Clayden disclose the device activated by biometric authentication of claim 1, Rowe et al. disclose the spectral difference database (600 or 710) includes the identification (i.e. a code) to trigger an actuator (column 12 lines 32 to 65; see Figures 6 and 7).

Referring to Claims 11 and 23, Rowe et al. in view of Clayden disclose the device activated by biometric authentication, to the extent as claimed with respect to claim 1 above, and Rowe et al. disclose the biometric sensor configured to measure a multiple tissue spectra (i.e. a specific, continuous, time-variant, internal, sub-epidermal structure) occurring within a user from which a biometric marker of said user may be determined (column 11 lines 8 to 43; see Figures 3 to 5) and Clayden disclose a biometric sensor configured to measure an image of the subcutaneous vein pattern (i.e. a specific, internal, sub-epidermal physiological process) of a user (column 2 lines 34 to 67; see Figures 1 to 10) in order to verify a biometric identity of a living individual in transaction involving identity cards.

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Referring to Claims 28-32, Rowe et al. in view of Clayden disclose the biometrically activated device of Claim 1, Rowe et al. disclose wherein said specific, internal, sub-epidermal structure within said user corresponds to tissue spectrum collected preferably includes primarily diffuse reflected light reflected from the inner dermis (i.e. sub-epidermal layer structure) (column 7 lines 28 to 47; column 11 lines 44 to 63; see Figures 1-5) and other measurement of analyte concentration in an individual (column 5 lines 2 to 7) and Clayden disclose a biometric sensor configured to measure an image of the subcutaneous vein pattern (i.e. a specific, internal, sub-epidermal physiological process) of a user (column 2 lines 34 to 67; see Figures 1 to 10) in order to verify a biometric identity of a living individual in transaction involving identity cards.

Referring to Claim 33, Rowe et al. in view of Clayden disclose the biometrically activated device of Claim 32, Rowe et al. disclose wherein the device is further configured to select one of said plurality of different specific, internal, sub-epidermal structure within said user (column 5 lines 2 to 7).

2. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe et al. (US# 6,628,809) in view of Clayden (US# 5,787,185) as applied to Claim 1 and further in view of Kaffka et al. (US# 5,974,337).

Referring to claim 27, Rowe et al. in view of Clayden disclose the device of claim 1, however, Rowe et al. in view of Clayden did not explicitly disclose wherein said physiological

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process corresponds to one selected from the group consisting of a cardiac rhythm, a diacritic notch reading, a heartbeat waveform, and a hemodynamic waveform.

In the same field of endeavor of identify verification, Kaffka et al. teaches that a measurement of a heartbeat to determine a characteristic changing in an individual (column 8 lines 47 to 57; column 9 lines 7 to 20) in order to create a portable device to hold information about the individual.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using the measurement of the heartbeat to determine a characteristic changing in the individual taught by Kaffka et al. with the identification of individual by using near-infrared radiation into skin to capturing the light reflected back and out through the tissue for identity verification of Rowe et al. in view of Clayden because using the measurement of the heartbeat to determine a characteristic changing would increase usability of the identity verification process.

3. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe et al. (US# 6,628,809) in view of Clayden (US# 5,787,185), in view of Lofberg (US# 4,582,985) and in view of Pavlov et al. (US# 4,614,861).

Referring to claim 17, Rowe et al. in view of Clayden disclose the device activated by biometric authentication, to the extent as claimed with respect to claim 1 above, however, Rowe et al. in view of Clayden did not explicitly disclose a planar card includes a first surface and an opposing second surface; and a data communicator embedded within said second surface of said

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card, said data communicator in communication with said memory module for communicating data to an external source.

In the same field of endeavor of identify verification, Lofberg teaches that a planar card (1) includes a first surface and an opposing second surface (4 lines 31 to 41; see Figure 1) in order to create a portable device to hold information about the owner.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using the data carrier with verification process taught by Lofberg with the identification of individual by using near-infrared radiation into skin to capturing the light reflected back and out through the tissue for identity verification of Rowe et al. because using the data carrier with verification process would increase usability of the identity verification process.

In the same field of endeavor of self-contained card, Pavlov et al. teach that an input/output port (36) to communicate with a semiconductor data memory of microprocessor 34 to communicate data with a programming machine 90 (column 9 line 11 to 23; column 13 line 44 to 68; see Figures 3-6 and 9) in order to read confidential and non-confidential information which has been stored on the self-contained verification card.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using an input/output port to communicate information data with external source taught by Pavlov et al. in a data carrier that exchange of data with terminal equipment of Lofberg and in the identity verification using multiple tissue spectra of Rowe et al. in view of Clayden and Pavlov et al. because using input/output port to exchange data between data carrier and terminal equipment would increase security and reliable communication of exchanging information data to external source..

Referring to claim 18, Rowe et al. in view of Clayden, in view of Lofberg and in view of Pavlov et al. disclose the biometrically activated card of claim 17, Pavlov et al. disclose a liquid crystal display (14) embedded between card top surfaces 48 and card backing 40 and connect to microprocessor 34 (column 10 lines 8 to 18; column 11 lines 4 to 16; column see Figures 3 and 5).

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt et al. (US# 4,582,985) in view of Rowe et al. (US# 6,628,809) and in view of Clayden (US# 5,787,185).

Referring to claim 19, Schmitt et al. discloses a biometrically activated portable telecommunication device (190) (column 3 lines 17 to 30; see Figures 14-15),

the portable telecommunication device (190) having an activated state and an inactivated state controlled by an activation switch (i.e. a power control means) (column 6 lines 46 to 64; see Figure 4);

a biometric sensor (30) embedded within said the portable telecommunication device (190) and the biometric sensor on surface of said the portable telecommunication device (column 13 lines 57 to 62; see Figures 14-15);

a fingerprint ID stored memory (208) embedded within the portable telecommunication device (190), said the fingerprint ID stored memory (208) in communication with the biometric sensor (30) and the power control means (column 13 lines 46 to 62; see Figures 4 and 14-15).

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However, Schmitt et al. did not explicitly disclose a biometric sensor having an electromagnetic energy transmitter and an electromagnetic energy receiver, configured to measure a specific, internal, sub-epidermal physiological process a user from which a biometric marker of said user may be determined, wherein said electromagnetic energy emitter is configured to penetrate said user to measure a specific, internal, sub-epidermal structure within said user.

In the same field of endeavor of identity verification, Rowe et al. teach that an energy source (16) and a spectrum analyzer (30) (i.e. a biometric sensor) configured to obtain a multiple tissue spectra (i.e. a specific, internal, sub-epidermal structure) within a user from a tissue spectral data (i.e. a biometric marker of said user) may be determined (column 11 lines 44 to 63; see Figure 5) in order to verify identity of a living individual and Clayden teaches a biometric sensor configured to measure an image of the subcutaneous vein pattern (i.e. a specific, internal, sub-epidermal physiological process) of a user (column 2 lines 34 to 67; see Figures 1 to 10) in order to verify a biometric identity of a living individual in transaction involving identity cards.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a biometric sensor by non-invasive method with near-infrared absorption of light energy by tissue taught by Rowe et al. and a subcutaneous vein pattern sensor of Clayden in a biometric sensor of a cellular telephone of Schmitt et al. because using a biometric sensor having an energy transmitter and an energy receiver would increase reliable of sensing biometric of a user.

Allowable Subject Matter

Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 35-36 are allowed.

Referring to claims 34-36, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that receive a returned second electromagnetic energy signal from said user responsive to said second emitted electromagnetic energy signal comprising a measurement of said second one of said plurality of different types of specific, internal, sub-epidermal structure within said user, determine a second biometric marker of said user using said measurement of said second specific, internal, sub-epidermal structure, compare said first biometric marker and said second biometric marker to said biometric profile of said authorized user of the device, and generate an authentication signal if said first biometric marker and said second biometric marker match correspond to said biometric profile of said authorized user of said device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on 571- 272-3059. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/N. V. N./
Examiner, Art Unit 2612

/Brian A Zimmerman/
Supervisory Patent Examiner, Art Unit 2612